

**REMARKS**

Claims 15-34 stand rejected under 35 U.S.C. §101 as being non-statutory subject matter. Specifically, the Examiner reasons as follows:

It is the examiner's position applicant's invention as claimed is not limited to a *practical application* in the technological arts. While the claims *appear* to be directed towards a method performed on a computer. However, examination has revealed no computer or computer-readable medium has been disclosed by applicant.

These grounds of rejection are traversed for the following reasons.

Claims 15 and 23 have been amended to recite the subject matter of the methods as being applied to a method of generating a hybrid grid applicable to a heterogeneous reservoir crossed by at least one geometric discontinuity of known geometry in order to form a model of fluid flows in the reservoir in accordance with a defined numerical pattern, a structure of the reservoir being known *a priori* from available data acquired through *in-situ* measurements, analysis and/or interpretations of seismic images of the reservoir and a method of simulating, in accordance with the defined numerical pattern, evolution of a process in a heterogeneous reservoir crossed by at least one geometric discontinuity of a known geometry, a structure of the reservoir being known *a priori* from available data acquired through *in-situ* measurements, analysis, and/or interpretations of seismic images of the reservoir. The amendment of the independent claims to be limited to a heterogeneous reservoir in combination with data acquired through *in-situ* measurements, analysis and/or interpretations of seismic images of the reservoir overcomes the Examiner's interpretation of the claims as being an abstract idea which is not limited to practical application in the technological arts. Heterogeneous reservoirs are understood by persons of ordinary skill in the art to be underground

formations in which the claimed fluid flows occur and furthermore, seismic images of the reservoir are also understood by persons of ordinary skill in the art to be acquired data from the heterogeneous reservoirs. Therefore, the claims pertain to statutory subject matter.

The Examiner is correct that the claimed method may be performed by a computer as understood by those persons of ordinary skill in the art. It is submitted that the limitation of the claims to a "practical application in the technological arts" renders the Examiner's speculation of how the invention may be implemented as not being relevant to the examination of the claims as presently limited to a practical application in the technological arts.

Moreover, the recitation of "data acquired through *in-situ* measurements, analysis and/or interpretation of seismic images qualifies as pre-computer activity" as referred to by the Examiner in Section 6. Finally, the generated grid is a physical display as illustrated in the various figures of the drawings which qualifies as a generic form of post-computer activity.

Furthermore, the claims have been amended to improve their form for examination.


In view of the foregoing amendments and remarks, it is submitted that each of the claims is in condition for allowance. Accordingly, early allowance thereof is respectfully requested.

To the extent necessary, Applicants petition for an extension of time under 37 CFR §1.136. Please charge any shortage in the fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 01-2135

(Case No. 612.39353X00) and please credit any excess fees to such deposit account.

Respectfully submitted,

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